U.S. DEPARTMENT OF ENERGY | OFFICE OF ENVIRONMENTAL MANAGEMENT

Savannah River Site Missions, Accomplishments and Funding

SRS Community Reuse Organization
Public Town Hall Meeting
April 17, 2014

Dr. Dave Moody
Site Manager
DOE-Savannah River

Doug Hintze
Assistant Manager for Mission Support/Acting Chief Financial Officer
DOE-Savannah River

- Provide an overview of DOE Office of Environmental Management program and Savannah River Site missions
- Describe the federal budget process
- Discuss the Savannah River Site budget environment and planned accomplishments for fiscal years 2014-2015
- Present Savannah River Site lifecycle (fiscal year 2013 and beyond) planning schedule

“Complete the safe cleanup of the environmental legacy brought about from five decades of nuclear weapons development, production, and government-sponsored nuclear energy research”

- From a legacy of weapons production to the world’s largest environmental cleanup program
- Operating in the world’s most complex regulatory environment
- Environmental Management (EM) clean-up enables Department of Energy (DOE) to maintain ongoing operations and other critical missions while achieving compliance with governing environmental laws

- We reduce risks and protect our workers, our communities and the environment through cleanup
- Our work is urgent and essential to the health and economic vitality of our communities and the nation, and positions our Sites for future missions and use
- Our mission is not discretionary - it is a federal obligation to address the cold war environmental legacy cleanup and honor our regulatory commitments
- We have demonstrated value for the American Taxpayer by delivering significant progress in the past several years in reducing risks and the overall liability - but our work is not done
- The Environmental Management portfolio is one of our nation's largest liabilities - we have a responsibility to relieve future generations of this environmental and financial liability

1. Activities to maintain a safe and secure posture in the EM complex
2. Radioactive tank waste stabilization, treatment, and disposal
3. Spent nuclear fuel storage, receipt, and disposition
4. Special nuclear material consolidation, processing, and disposition
5. High risk soil and groundwater remediation
6. Transuranic and mixed/low-level waste disposition
7. Soil and groundwater remediation
8. Excess facilities deactivation and decommissioning

- **Since the early 1950s, SRS has provided knowledge, technology and integrated solutions for our most pressing national needs.**

- **SRS pioneered the development and deployment of materials technologies at scales never before imagined.**

SRS AT A GLANCE

Established in 1950 to support national defense missions

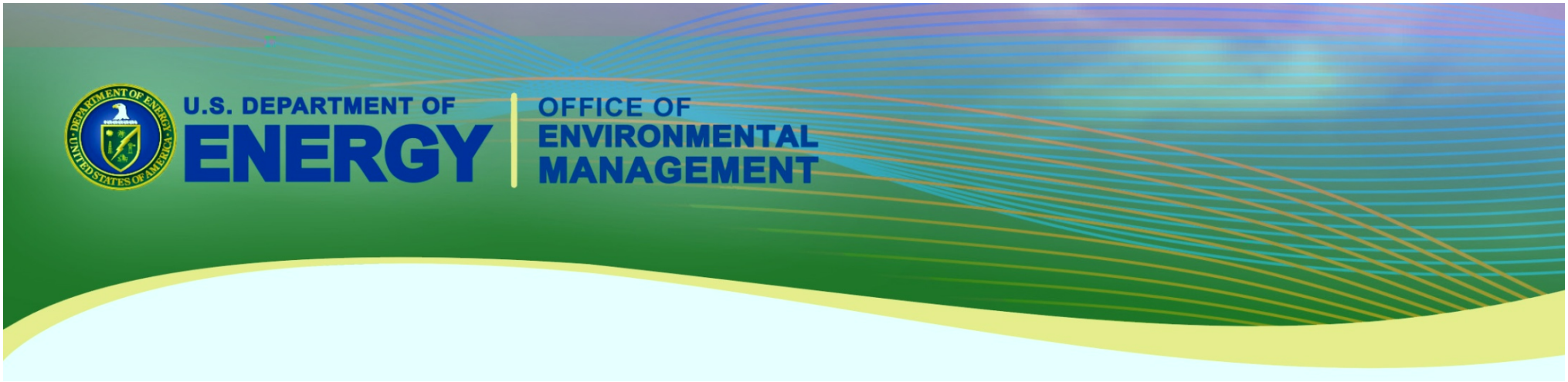
Produced tritium (only U.S. source) and weapons-grade plutonium

Over 38,000 workers at peak
(Current workforce is ~12,000)

SRS covers 198,000 acres (310 square miles)

Significant "Firsts"

- ü Produced radioactive fuel (Pu-238) for the world's first "atomic battery" used in a space satellite launch (1961)
- ü Advanced particle physics with the proof of the existence of the neutrino (1956)
- ü Provided first real quantities of the element californium for research and medical applications
- ü Recognized as the birthplace of the modern science of ecology
- ü Designed and built the largest radioactive waste vitrification facility in the world
- ü Designated as first National Environmental Research Park (1972)
- ü Discovered the natural habitat of the bacterium that causes Legionnaires' Disease
- ü Pioneered the use of microbes in environmental cleanup and expanded their use in land mine detection
- ü First to take **the mining industry's horizontal well technology and apply to environmental** cleanup**/monitoring.**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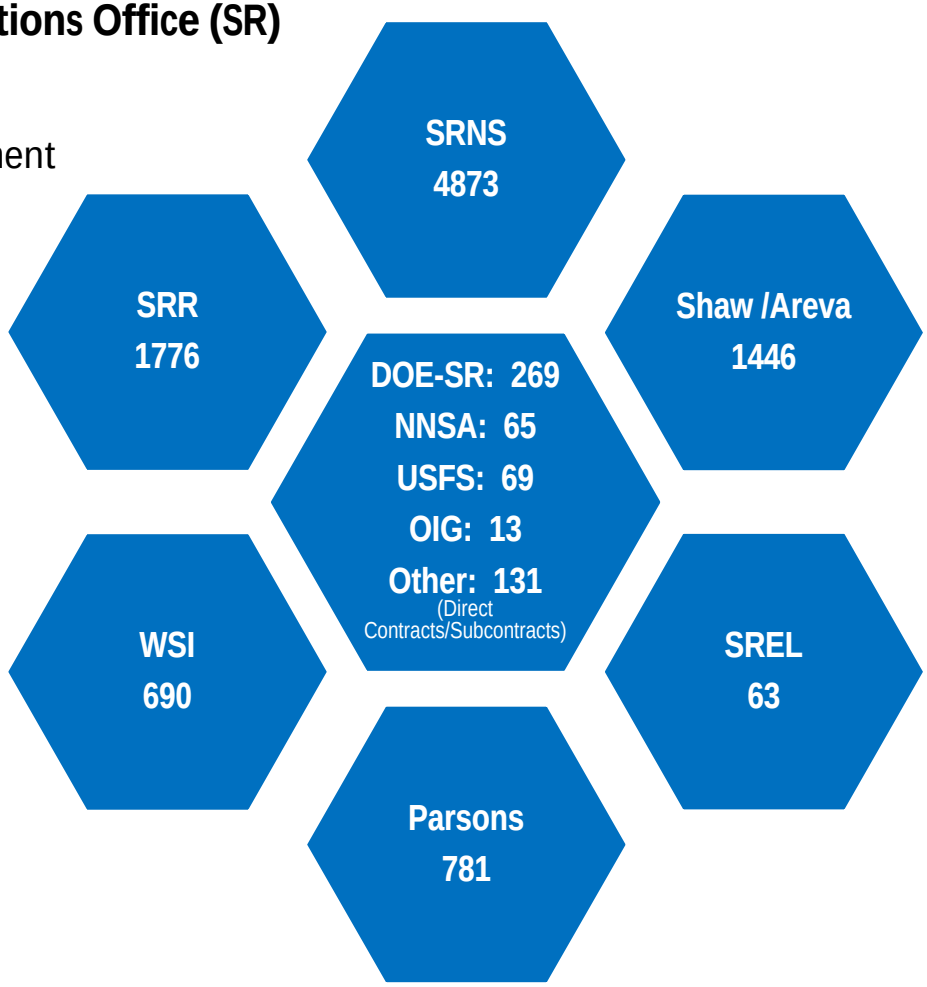
- **U.S. Department of Energy -Savannah River Operations Office (SR)**
- **National Nuclear Security Administration (NNSA)**
  - Savannah River Field Office
  - Office of Site Engineering and Construction Management
- **U.S. Forest Service (USFS)**
- **Office of Inspector General (OIG)**

Contractors

- **Savannah River Nuclear Solutions (SRNS)**
  - Management & Operations
  - Savannah River National Laboratory
- **Savannah River Remediation (SRR)**
  - Liquid Waste Operations
- **Parsons** (Salt Waste Processing Facility)
- **Ameresco** (Biomass Cogeneration Plant)
- **WSI-SRS** (Security)
- **Shaw AREVA**:
  - Mixed Oxide Fuel Fabrication Facility (MOX)
- **University of Georgia**
  - Savannah River Ecology Laboratory (SREL)
- **U.S. Nuclear Regulatory Commission** (MOX)
- **U.S. Army Corps of Engineers** (MOX)



SRS Workforce = 10,175

December 2013

- Designated a National Laboratory (2004) and EM's Corporate Laboratory (2006)
- World-class research
- Multi-Program Laboratory
  - >65% of funding from non-SRS customers
- Core nuclear capabilities
  - Chemical processing/separation
  - Materials
  - Tritium/hydrogen
  - Environmental science

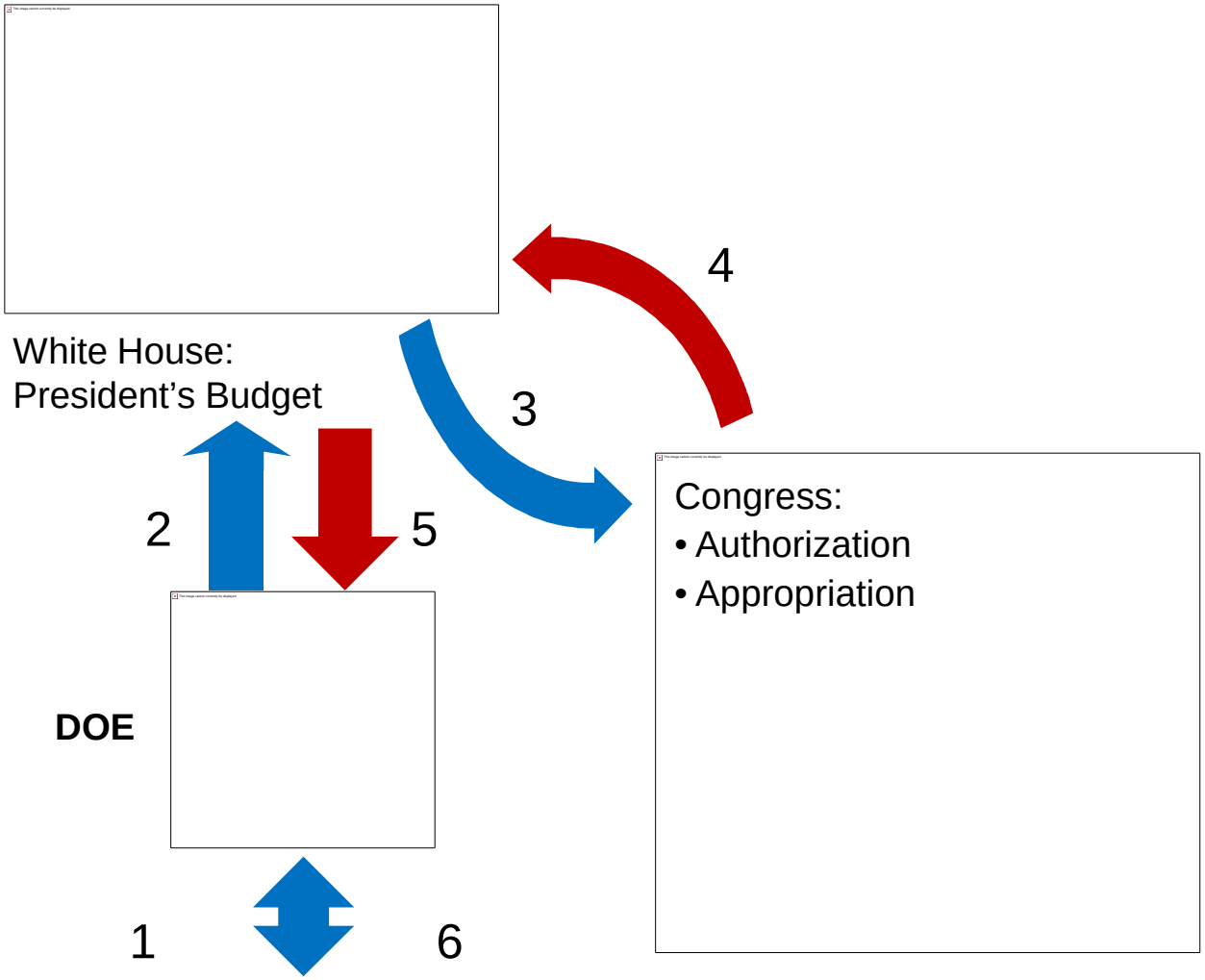
Environmental Stewardship

Clean Energy

National Security

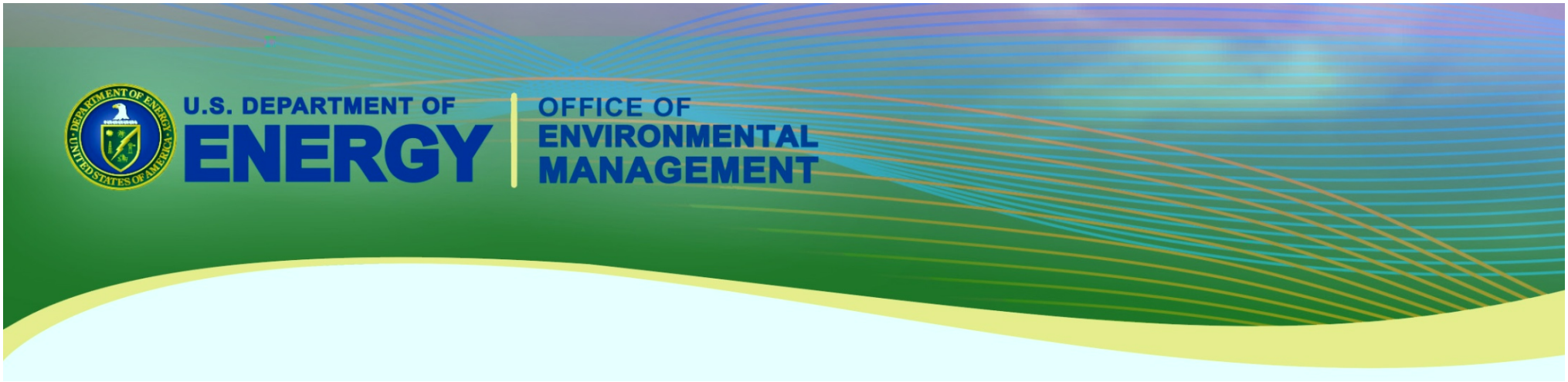
- Produced 226 canisters at the Defense Waste Processing Facility
- Continued closure activities for Liquid Radioactive Waste Tanks 5 and 6
- Processed 1.32 million gallons of salt tank waste in ARP / MCU and dispose over 2.8 million gallons of low-activity waste onsite in the Saltstone Disposal Units
- Continued construction of the Salt Waste Processing Facility
- Continued processing potentially vulnerable used nuclear fuel (UNF)
- Initiated preparations for receipt of Canadian liquid Highly Enriched Uranium
- Continued preparation for production of plutonium oxide suitable for use in the Mixed Oxide Fuel Fabrication Facility (funded by NNSA)
- Continued receipt of Foreign Research Reactor/Domestic Research Reactor UNF
- Performed limited implementation of Augmented Monitoring and Condition Assessment Program of UNF in wet storage
- Continued disposition of site's contact-handled legacy transuranic waste (179 shipments to Waste Isolation Pilot Plant or 1,168 cubic meters)
- Stored and shipped non-Moxable plutonium to the Waste Isolation Pilot Plant
- Continued processing low-level and mixed low-level radioactive waste and disposal operations
- Continued Building 235-F Risk Reduction scope to meet Implementation Plan for DNFSB's Recommendation 2012-1
- Met all regulatory commitments and continued operations of remedial systems

The first Monday of every February, the President sends a proposed budget plan to Congress	February
Congress carries out a series of evaluations ultimately passing a budget resolution	Early Spring
Congressional Subcommittees ‘Markup’ Appropriation Bills	Late Spring
The House & Senate vote on Appropriation Bills and reconcile differences	Early Fall
President signs the bill approved by Congress and the Senate, and the budget is enacted	Sept. 30



Funding determined by:

- Work scope importance to DOE, President and Congress
- Global Economic Outlook
- Site performance
- Cost effectiveness
- Defensible estimates
- Political support
- Community support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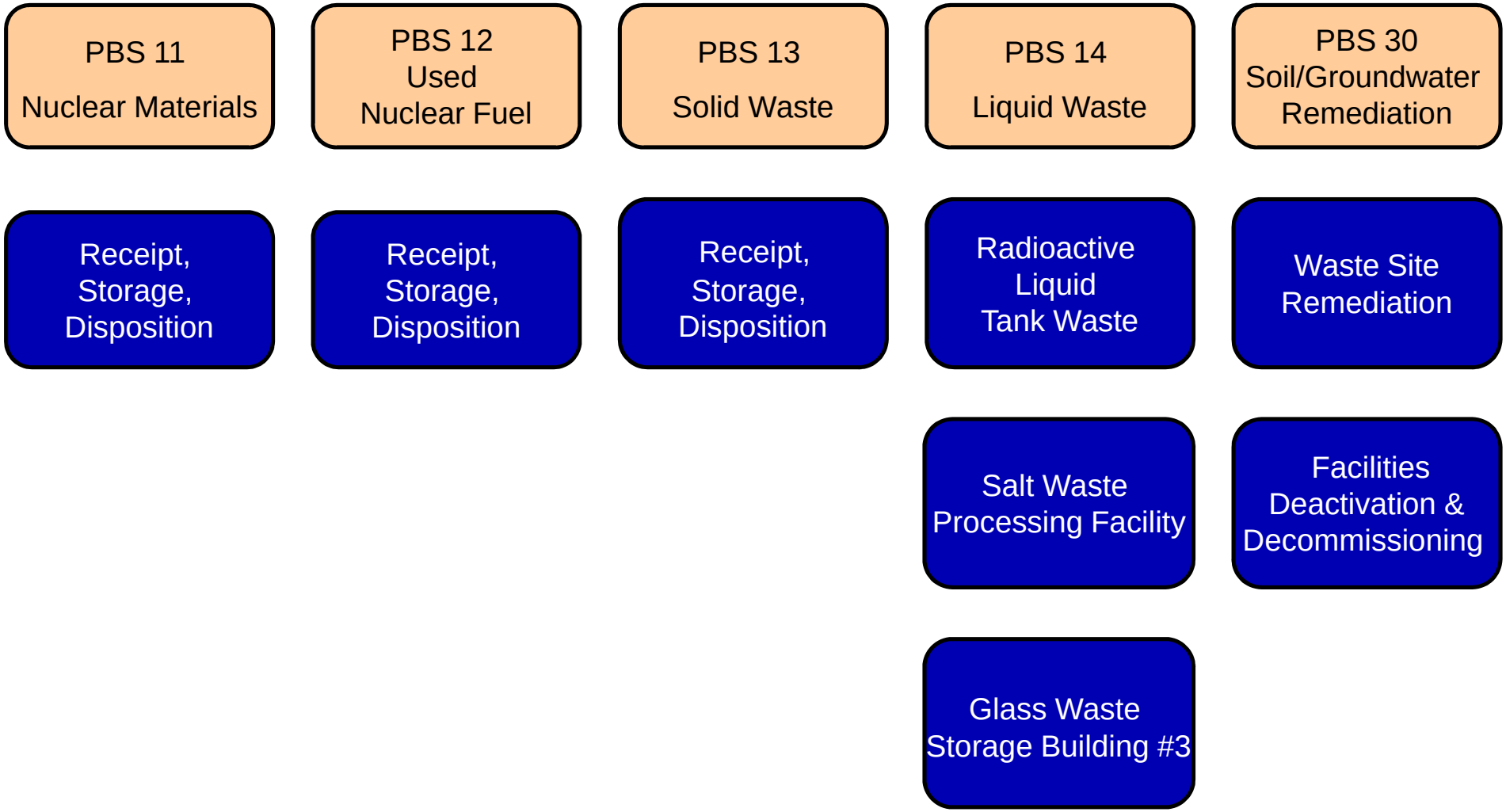
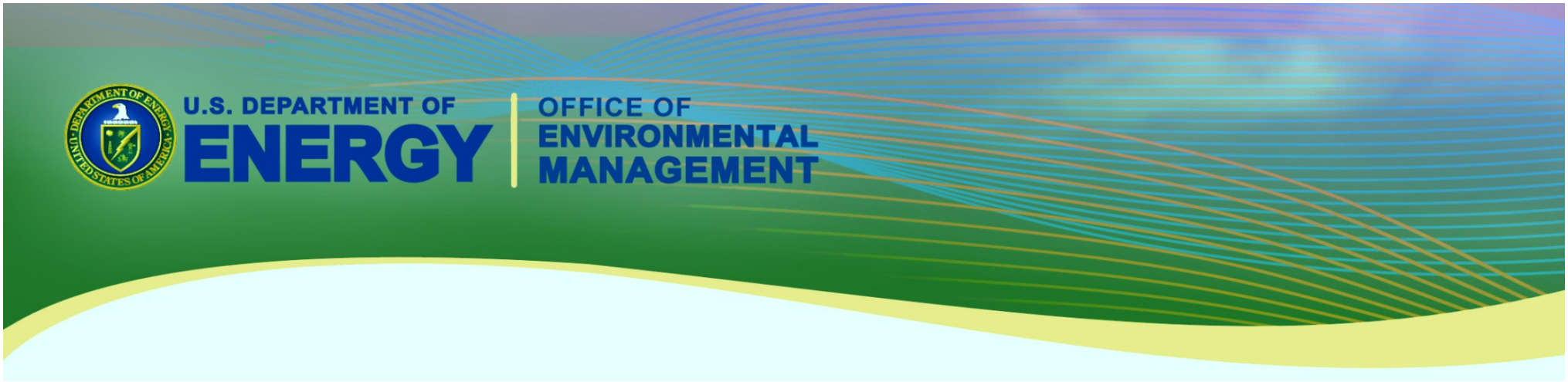

PBS 11
Nuclear Materials
PBS 12
Used
Nuclear Fuel
PBS 13
Solid Waste
PBS 14
Liquid Waste
PBS 30
Soil/Groundwater
Remediation
Receipt,
Storage,
Disposition
Receipt,
Storage,
Disposition
Receipt,
Storage,
Disposition
Radioactive
Liquid
Tank Waste
Waste Site
Remediation
Salt Waste
Processing Facility
Facilities
Deactivation &
Decommissioning
Glass Waste
Storage Building #3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- **Site-wide**
  - Meet regulatory commitments

- **PBS 11 – Nuclear Materials**
  - Continue processing used nuclear fuel and preparations for receipt of Canadian liquid Highly Enriched Uranium
  - Initiate production of plutonium oxide suitable for use in the Mixed Oxide Fuel Fabrication Facility (funded by NNSA)
  - Continue Building 235-F Risk Reduction scope to meet Implementation Plan for DNFSB's Recommendation 2012-1
  - Continue Pu packaging operations for disposition at Waste Isolation Pilot Project

- **PBS 12 – Used Nuclear Fuel**
  - Continue receipt of Foreign Research Reactor/Domestic Research Reactor UNF
  - Continue limited implementation of Augmented Monitoring and Condition Assessment Program of UNF in wet storage

- **PBS 13 – Solid Waste and Infrastructure**
  - Continue disposition of site's contact-handled legacy transuranic waste
  - Store and ship non-Moxable plutonium to the Waste Isolation Pilot Plant
  - Continue processing low-level and mixed low-level radioactive waste and disposal operations in E Area
  - Initiate closure of legacy TRU-waste pads under Federal and State regulations
  - Complete critical infrastructure projects from the Site's Critical Infrastructure Plan
    - Replace SRNL hot cell windows (maintain capability to support EM requirements)
    - Replace SRNL fire suppression system (compliance issue – DNFSB concern)

- **PBS 14 – Liquid Waste**
  - Operate the Defense Waste Processing Facility at a reduced rate to produce 125 canisters
  - Operate Actinide Removal Process (ARP) and Modular Caustic Side Solvent Extraction (MCU) to disposition 800,000 gallons salt waste
  - Complete closure activities for Tanks 5 and 6, continue closure activities on Tanks 12 and 16
  - Continue construction on Saltstone Disposal Unit 6
  - Continue planning activities for an interim storage capacity for vitrified waste canisters
  - Resume Salt Disposition Integration activities to support future SWPF start-up

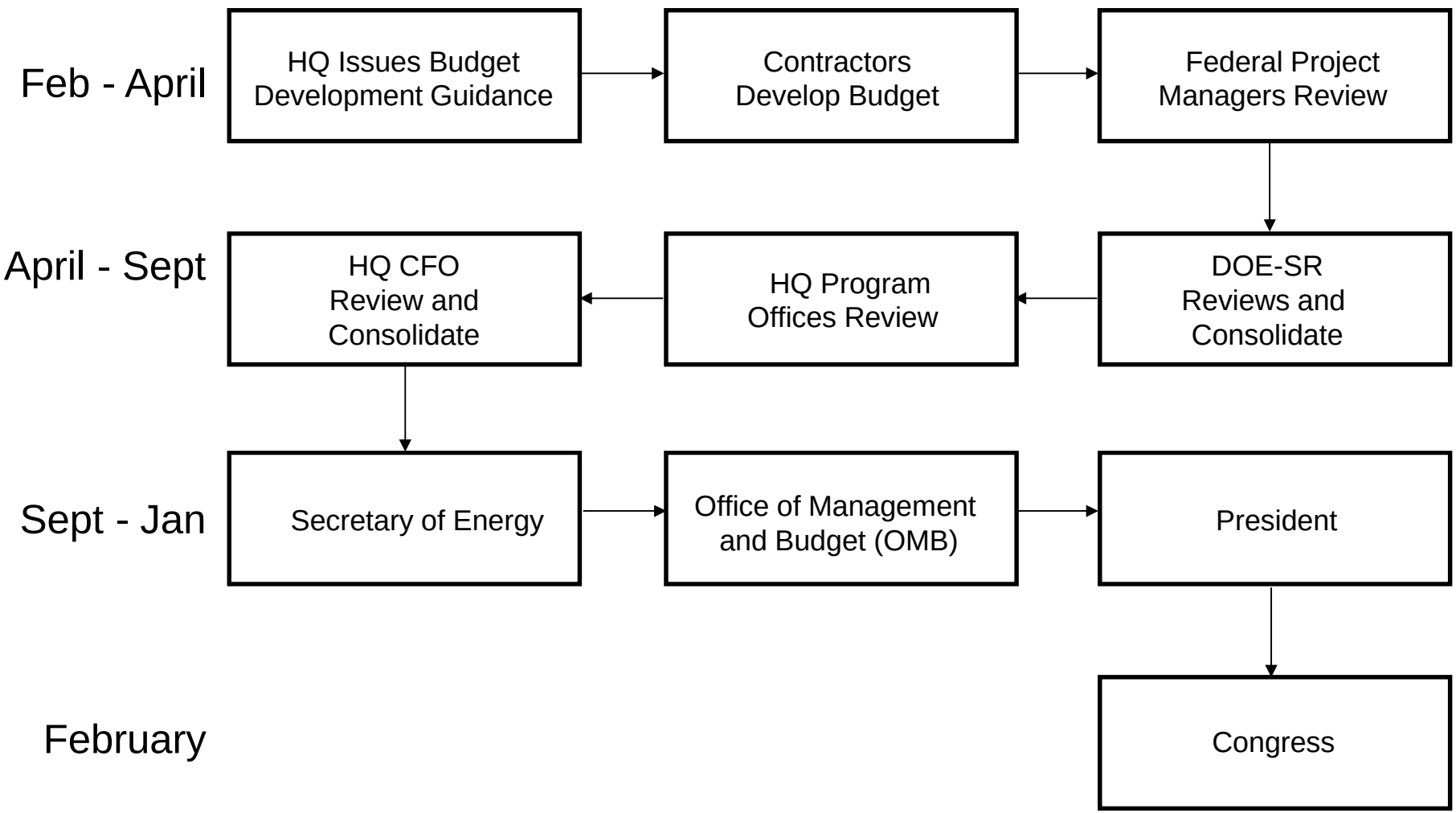
- **PBS 20 – Safeguards and Security**
  - Maintain protective force personnel to assure the security of special nuclear materials, facilities, and other site assets, operate and maintain physical security protection systems, ensure protection of classified and unclassified computer security, execute information and operational security measures, cyber security, personnel security
  - Support Safeguards and Security enhancements for H-Area missions

- **PBS 30 – Soil and Groundwater Remediation**
  - Achieve compliance with over 100 enforceable Federal Facility Agreement (RCRA/CERCLA)milestones and RCRA permit commitments.
  - Operate and maintain 39 regulatory required soil and groundwater remedial systems
  - Conduct post-closure surveillance and maintenance at 68 closed waste units (about 900 acres)
  - Monitor, perform analysis and report on over 2,000 groundwater wells and 5 major streams, the Savannah River Floodplain Swamp, and the Savannah River
  - Perform surveillance and maintenance of Area Completion Projects inactive facilities
  - Perform Design and Commence Field Preparation for D Area Ash Units

- **Site-wide**
  - Meet regulatory commitments
- **PBS 11 – Nuclear Materials**
  - Continue Pu packaging operations for disposition at Waste Isolation Pilot Project
  - Continue processing spent (used) nuclear fuel in H-Canyon and begins processing U.S. origin Canadian liquids of Highly-Enriched Uranium (HEU)
  - Continue production of plutonium oxide suitable for use in the Mixed Oxide Fuel Fabrication Facility
  - Continue Building 235-F Risk Reduction per Implementation Plan for DNFSB's Recommendation 2012-1
- **PBS 12 – Used Nuclear Fuel**
  - Continue receipt of non-U.S. origin material from foreign countries in support of the Global Threat Reduction Initiative program and Foreign Research Reactor/Domestic Research Reactor spent (used) nuclear fuel
- **PBS 13 – Solid Waste**
  - Continue to pursue completion of legacy transuranic (TRU) waste shipments
  - Store and ship non-Moxable plutonium to the Waste Isolation Pilot Plant
  - Continue processing of low-level and mixed low-level radioactive waste and disposal operations in E Area
- **PBS 14 – Liquid Waste**
  - Disposition 1,000,000 gallons of liquid tank salt waste through the Actinide Removal Process (ARP) /Modular Caustic Side Extraction Unit (MCU) facility
  - Produce 120 to 130 canisters of vitrified high-level waste at the Defense Waste Processing Facility (DWPF)
  - Continues Salt Waste Processing Facility (SWPF) construction and infrastructure modifications to support SWPF operations
  - Continue Saltstone Disposal Unit (SDU) 6 construction
  - Continue tank closure activities on Tanks 12 and 16
- **PBS 30 – Soil and Groundwater Remediation**
  - Maintain groundwater remediation systems
  - Monitor over 2,000 groundwater wells and multiple major bodies of surface water
  - Initiate field cleanup activities on D-Area Ash Basin

We Deliver!

Back-Up Slides

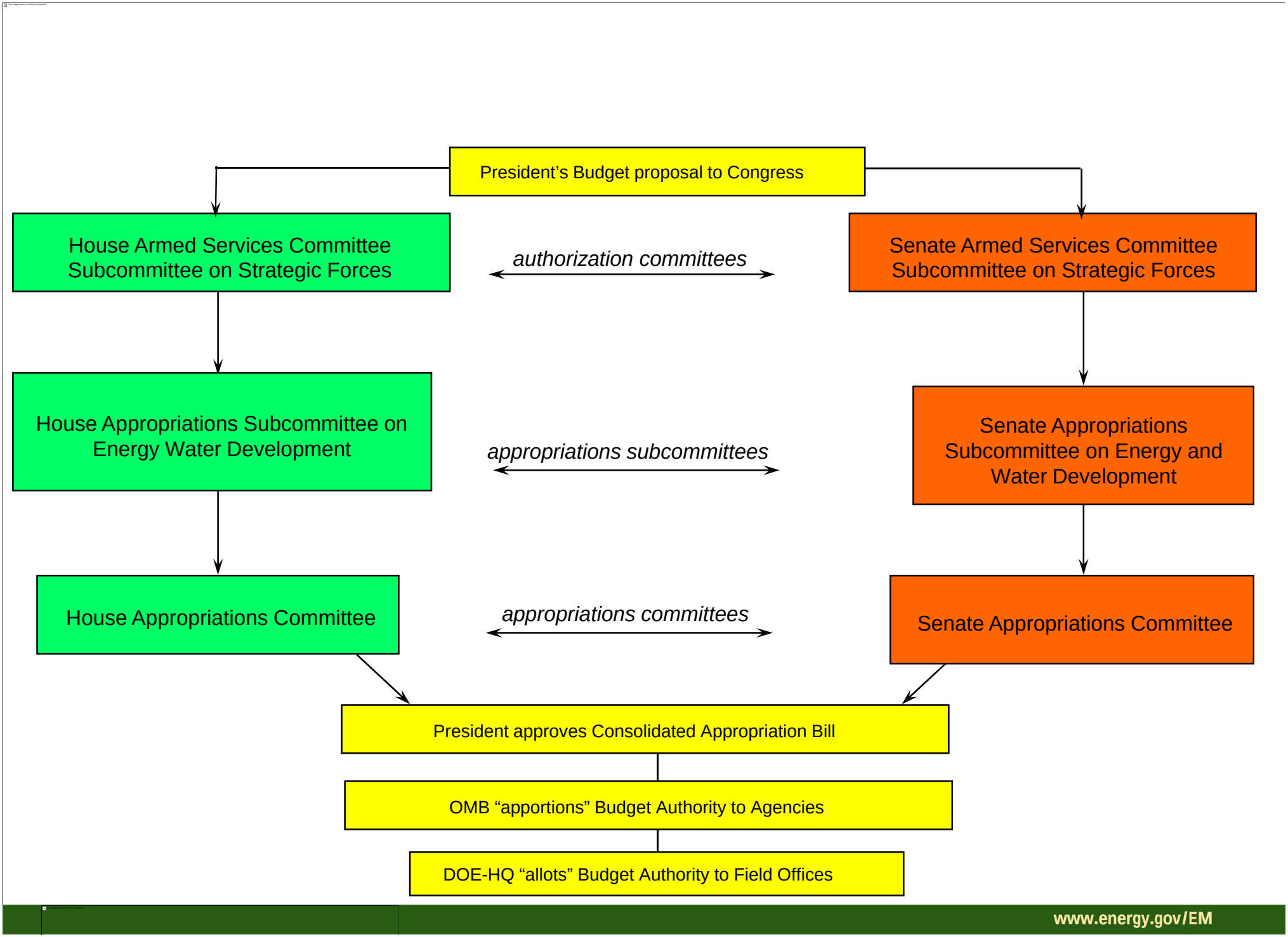

Feb - April
HQ Issues Budget Development Guidance
Contractors Develop Budget
Federal Project Managers Review
April - Sept
HQ CFO Review and Consolidate
HQ Program Offices Review
DOE-SR Reviews and Consolidate
Sept - Jan
Secretary of Energy
Office of Management and Budget (OMB)
President
February
Congress

Authorization

- provides program authorization definition and limits
- sets up or continues operation of a federal program
- normally a pre-requisite for Appropriations
- may limit Budget Authority (funding) in appropriation

Appropriation

- provides Budget Authority -- BA -- (funding) which translates into spending limits -- BO -- (outlays or expenditures)
- provides legal authority for federal agencies to incur obligations and make payments out of the Treasury for specified purposes
- fulfills constitutional requirement “no money shall be drawn from the Treasury, but in consequence Appropriations by Law.”


President's Budget proposal to Congress
House Armed Services Committee Subcommittee on Strategic Forces
authorization committees
Senate Armed Services Committee Subcommittee on Strategic Forces
House Appropriations Subcommittee on Energy Water Development
appropriations subcommittees
Senate Appropriations Subcommittee on Energy and Water Development
House Appropriations Committee
appropriations committees
Senate Appropriations Committee
President approves Consolidated Appropriation Bill
OMB "apportions" Budget Authority to Agencies
DOE-HQ "allots" Budget Authority to Field Offices

Ideally, the annual federal budget process begins by the first Monday in February and ends on October 1st,the start of the government's fiscal year. Unfortunately, the process has not been completed on time in several years, leaving the government starting its new fiscal year without an approved budget. In order to prevent a government shutdown, a series of "continuing resolutions" are usually approved by Congress to keep the wheels of government rolling until a budget agreement can be reached. Once again, in a perfect political world, the annual federal budget process would go as follows:

Before the First Monday in February: The President's Budget Proposal is submitted to Congress.

Six Weeks Later: The Congressional committees report their budget estimates to Budget Committees.

By April 15: The Congressional Budget Resolution should be approved.

By May 15: The House and Senate should begin consideration of the annual appropriations (spending) bills.

By June 15: Differences between House and Senate versions of the annual appropriations bills should have been resolved by a conference committee.

By June 30: Congress should have approved the annual appropriations bills and sent them to the president.

By July 15: The president transmits a Mid-Session Review of the budget to Congress.

On October 1: The government's new fiscal year begins and the new budget is implemented.

The U.S. Department of Energy (DOE) Environmental Management (EM) Cleanup Program is categorized by functional areas called Program Baseline Summaries (PBS) which describe the scope, schedule and cost of cleanup work to be performed.

PBS 11C, Nuclear Materials Stabilization and Disposition

Management and disposition of nuclear materials, primarily located in H and K Areas at SRS. The H Area facilities continue to stabilize and disposition legacy nuclear materials through operation of the H Canyon and HB Line with Analytical Laboratories and Savannah River National Laboratory (SRNL) support. Continued programmatic and physical support activities related to safe receipt, inventory and management of special nuclear materials (SNM) at DOE-SR in K Area. This PBS also covers safe surveillance and maintenance of its program operational facilities through facility deactivation until the facilities are transferred to PBS 30 for decommissioning.

PBS 12, Used (Spent) Nuclear Fuels Stabilization and Disposition

Receipt and storage of used nuclear fuel originating from Atomic Energy Commission and DOE-EM activities, used nuclear fuel received at the SRS supporting the Domestic Research Reactor (DRR), Foreign Research Reactor (FRR), and Gap receipt programs. PBS 12 also covers disposition of heavy water stored in C Area, K Area and L Area. This PBS also covers safe surveillance and maintenance of its program operational facilities through facility deactivation until the facilities are transferred to PBS 30 for decommissioning.

PBS 13, Solid Waste Stabilization and Disposition

Storage, treatment and disposal of legacy transuranic (TRU), low-level, mixed low-level, hazardous and sanitary waste, and landlord functions to support general operations of the Site. This PBS also covers safe surveillance and maintenance of its program operational facilities through facility deactivation until the facilities are transferred to PBS 30 for decommissioning.

PBS 14, Radioactive Liquid Tank Waste Stabilization and Disposition

Removal, treatment, storage, and disposal of radioactive liquid waste stored in tanks and, ultimately, tank closure. This includes the operation of the Defense Waste Processing Facility (DWPF), waste tank farms, the Actinide Removal Process (ARP), Modular Caustic Side Solvent Extraction Unit (MCU), the Saltstone Production Facility (SPF), the Saltstone Disposal Facility (SDF), and future waste facilities including the design, construction, and operation of the Salt Waste Processing Facility (SWPF), Small Column Ion Exchange (SCIX), Saltstone Disposal Units (SDUs) and future waste facilities including the design, construction and operation of the Salt Waste Processing Facility (SWPF), Saltstone Disposal Units and additional glass waste storage capacity. This PBS also covers safe surveillance and maintenance of its program operational facilities through facility deactivation until the facilities are transferred to PBS 30 for decommissioning.

PBS 30, Soil and Water Remediation and Facility D&D

Investigation and, if necessary, remediation of contaminated waste sites, surface water and groundwater. An area completion approach is being used for greater efficiency in lieu of individual waste site investigation/remediation and general facility deactivation and decommissioning (D&D). This PBS also combines scope previously captured under PBS 40 for EM facilities Deactivation and Decommissioning (D&D) at DOE-SR in coordination with the Area Completion strategy.

PBS 20, Safeguards and Security

Provides protection of DOE-SR nuclear materials, production facilities and classified matter from theft, sabotage or unauthorized control. The program provides for uniformed protective force personnel, law enforcement and general site security, aviation operations and special response teams, as well as special nuclear materials control and accountability.

PBS 100, Non-Closure Mission Support

Provides support to enable DOE-SR to perform its missions and cleanup activities. Examples of support activities include Natural Resources Management, Cultural Resources, Natural Resource Conservation, Water Observation Activities, and Medical Research. This PBS combines the scope previously captured under PBS 101 for DOE-SR to perform its missions and cleanup activities. DOE provides funding to support: community outreach, environmental compliance and regulatory integration, geological surveys, archaeological research, forest management, training and educational grants, State of Georgia for emergency management activities, State of South Carolina for independent environmental monitoring and emergency management, SCDHEC for oversight and implementation of the FFA and validation of cleanup credits under the Site Treatment Plan (STP). Payment-in-Lieu-of-Taxes (PILTS) for Aiken, Allendale and Barnwell counties and support for the SRS Citizens Advisory Board.

NNSA Budget at SRS	FY13 Budget (w/sequestration and pension reductions)	FY14 Omnibus	FY15 President's Budget Request
Defense Programs	182,719	211,783	241,484
Safeguards and Security	13,977	12,574	13,408
Mixed Oxide Fuel Fabrication Facility (MOX)	437,820	436,896	221,000
Waste Solidification Building	80,908	19,800	5,125
Defense Nuclear Nonproliferation (NN)	49,132	34,800	30,000
NN Other (International Programs)	35,322	36,482	41,881
Total Budget for NNSA at SRS	***799,877***	***752,335***	***552,898***

BA	Budget Authority
BO	Budget Outlay
CR	Continuing Resolution
DNFSB	Defense Nuclear Facilities Safety Board
DOE	Department of Energy
EM	DOE Office of Environmental Management
FY	Fiscal Year
HQ	Headquarters
MOX	Mixed Oxide Fuel Fabrication Facility
NNSA	National Nuclear Security Administration
OMB	Office of Management and Budget
PBS	Program Baseline Summary
SR	DOE Savannah River Operations Office
SRNL	Savannah River National Laboratory
SRS	Savannah River Site
UNF	Used Nuclear Fuel